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OBLON, MCCLELLAND, MAIER & NEUSTADT, L.L.P.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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SLIFKA, SARAH A

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ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* NORIHIRO TOMIMATSU,  
MASATO AKITA, and RYOSUKE YAGI

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Appeal 2015-002628  
Application 12/054,845<sup>1</sup>  
Technology Center 1700

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Before CATHERINE Q. TIMM, JEFFREY T. SMITH, and  
N. WHITNEY WILSON, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134 from a final rejection of claims 1–12. We have jurisdiction under 35 U.S.C. § 6.

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<sup>1</sup> The real party in interest is KABUSHIKI KAISHA TOSHIBA.  
App. Br. 1.

Appellants' invention is generally directed to a fuel cell apparatus, which comprises: a fuel cell generating electric power and a control unit having a load control portion configured to control a load applied to the fuel cell. Spec. 5. Claim 1 illustrates the subject matter on appeal and is reproduced from the Appeal Brief below:

1. A fuel cell apparatus, comprising:
  - a fuel cell generating electric power, including an electrolyte membrane,
  - a fuel electrode which includes an anode catalyst, which is disposed in one side of the electrolyte membrane, which is supplied with liquid fuel, and which discharges gas generated by a chemical reaction accelerated by the anode catalyst, and
  - an oxidizing agent electrode which includes a cathode catalyst, which is disposed in the other side of the electrolyte membrane, and which is supplied with air; and
  - a control unit having a load control portion configured to control a load applied to the fuel cell and a timer portion connected to the load control portion for measuring a period of operation of the fuel cell and measuring predetermined time intervals, *the control unit configured to increase the load using the load control portion in at least one of two cases, one case being when electric power generated by the fuel cell falls below a predetermined reference value and another case being at predetermined time intervals measured by the timer, and configured to stop the increase of the load after elapse of a predetermined time period from the start of the increase of the load measured by the timer portion.*

Appellants (*see* App. Br., *generally*) requests review of the rejection of claims 1–12 are rejected under 35 U.S.C. § 103(a) as obvious over Sakai et al. (U.S. 2004/0009381 A1, published Jan. 15, 2004) (“Sakai”).<sup>2</sup>

### OPINION<sup>3</sup>

Upon consideration of the evidence in this appeal record in light of the respective positions advanced by the Examiner and Appellants, we determine that Appellants have not identified reversible error in the Examiner’s determination that the applied prior art would have rendered the subject matter recited in claims 1–12 obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. § 103(a). Accordingly, we sustain the Examiner’s § 103(a) rejection of the above claims for the reasons set forth in the Final Action and the Answer. We add the following.

A complete statement of the rejection appears on pages 5–11 of the Final Office Action. The Examiner found Sakai describes a direct methanol fuel cell system comprising an electrical controller and measuring devices. Final Act. 5–6. The Examiner found Sakai describes the load supplied to the system depends on the measurement of the voltage, current and time interval. Final Act. 6; Sakai ¶¶ 12–13, 82–83, and 92. The Examiner determined that a person of ordinary skill in the art would have been capable

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<sup>2</sup> The Examiner has withdrawn the rejection of claims 1–13 under 35 U.S.C. § 102(b) and the rejection of claims 1–12 under 35 U.S.C. § 112, second paragraph. Ans. 2.

<sup>3</sup> Appellants present their substantive arguments addressing independent claim 1. We limit our discussion to independent claim 1 as representative of the subject matter on appeal.

of operating Sakai's controller and measuring devices to perform the control operations required by the claimed invention. Final Act. 6.

Appellants argue there are significant differences between the control unit of Sakai and the control unit of the claimed invention. Appellants argue the control unit of the claimed invention operates to increase the efficiency of fuel cell by generating electric power at a constant rate by varying the load generated for a specific period of time. App. Br. 7–8. Appellants argue there is no evidence that would suggest the controller of Sakai could have been modified—i.e., programmed—to operate as specified by claim 1 resulting in increased fuel cell efficiency. App. Br. 8. Appellants specifically state

an operator *cannot* program the controller of Sakai et al. to perform the functions of the control unit of claims 1-12 since the knowledge to do so does not exist in the prior art. The operator needs to know exactly how to program the functions. Simply being able to program a controller, without knowing what to program, leaves an operator incapable of obtaining the control unit of claims 1-12.

App. Br. 8.

Appellants' arguments are not persuasive of reversible error. It is not disputed that Sakai describes a fuel cell system comprising electrical devices for measuring the current (load) and time interval and a controller for their operation. Appellants argue Sakai's controller is not configured to operate as required by the claimed invention and there is no suggestion for person of ordinary skill in the art to perform this programming. Reply Br. 4–6. Appellants further argue the Specification's Figure 4 is a sufficient description of what is necessary for a person of ordinary skill in the art to program the controller to operate as required by claim 1. Reply Br. 6.

Appellants have failed to establish a patentable distinction between the programming necessary for operation of the devices for measuring the current (load) and time interval as required by Sakai and the claimed invention. As pointed out by the Examiner, Sakai —Figure 5 and paragraphs 86–92—describes increasing the electrical current and measuring the time interval. Appellants have not explained how the descriptions of Specification Figure 4 results in a patently distinct controller. Sakai discloses the controller comprises a voltage regulator that adjusts the voltage supplied to the fuel cell system. Sakai ¶¶ 77, 92. Appellants argue “the specification provides support for a controller programmed as able to perform the operations in the flowchart of Figure 4.” Reply Br. 6. However, Appellants have failed to explain how the descriptions appearing in Figure 4 would have resulted in a program that is patently distinct from the program resulting from the descriptions of Sakai. In other words, Appellants have not adequately explained how the descriptions of the control unit in the present Specification would have resulted in a programmed control unit that controls a load applied to the fuel cell based on voltage output and time would not have been obvious to a person of ordinary skill in the art based on Sakai’s disclosure which describes controlling the load applied to the fuel cell based on voltage output and time. Appellants in the Specification have failed to adequately describe the instructions—necessary for operation of the control unit—in such detail that would have distinguished the claimed invention from the control unit that would have resulted from a person of ordinary skill in the art reasonably following the descriptions of Sakai for the control unit.

Based on our consideration of the totality of the record before us, and having evaluated the obviousness rejection in view of Appellants' arguments and evidence, we conclude that the preponderance of evidence weighs in favor of the obviousness of the claimed subject matter within the meaning of § 103. *See In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

#### CONCLUSION

The obviousness rejection under 35 U.S.C. § 103(a) is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED